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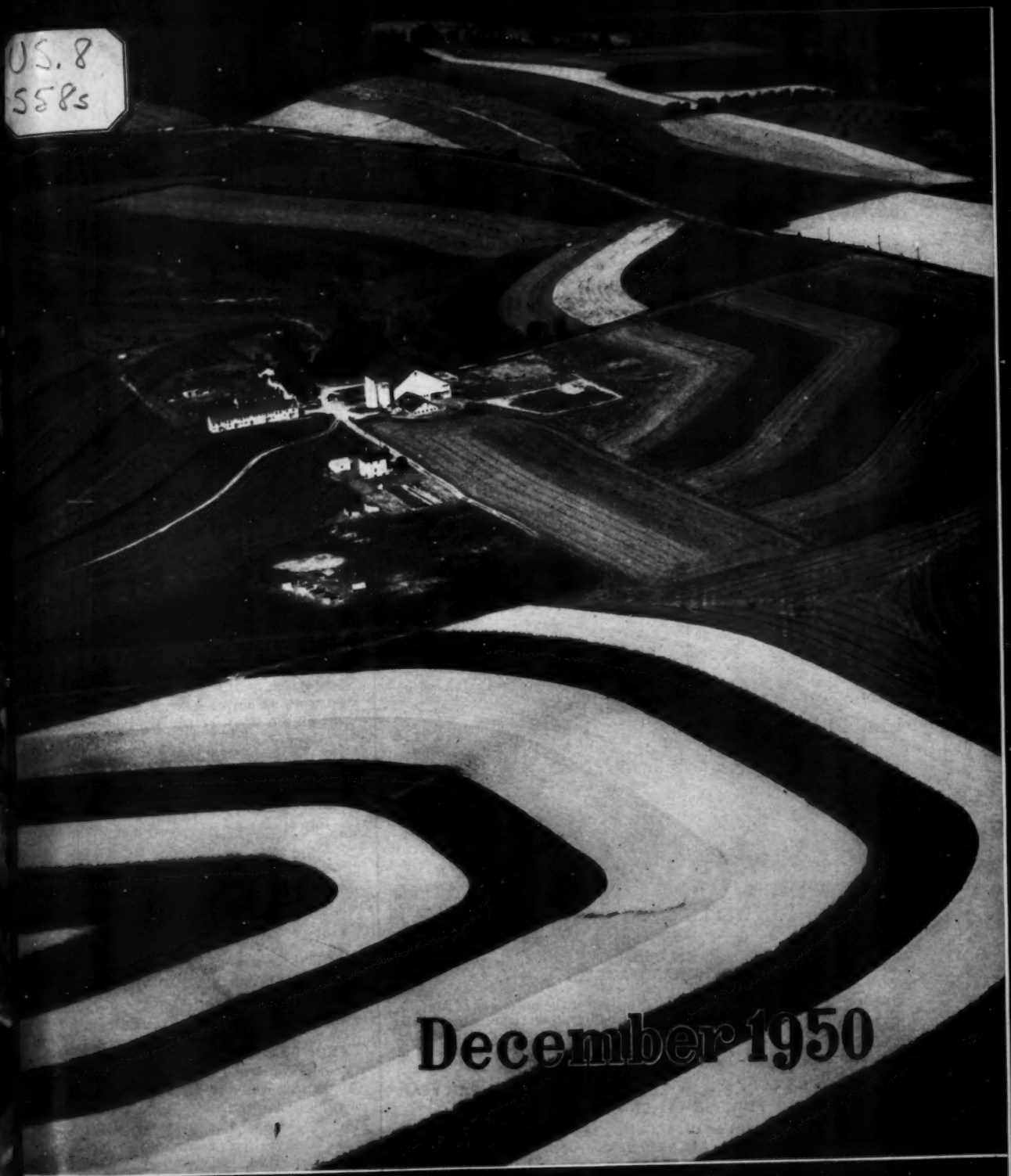

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☆ THIS MONTH ☆

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WELLINGTON BRINK
Editor
Art Work by
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TIME IS MONEY.—Land leveling on 39 acres of the Glenn Seeley farm near Stanfield, Oreg., has reduced irrigating time from 6 weeks to 6 days annually.

Seeley, cooperating with the West Umatilla Soil Conservation District, leveled his 39-acre field in 1948. With the help of SCS engineers, he also improved his field ditches and made the change-over from wild flooding to border irrigation. Alfalfa was planted the same year.

"Before this field was leveled, it took me about 2 weeks per irrigation to get water over it. Now I can do a better job, using much less water, in 48 hours," Seeley said.

Seeley figures on three waterings a season, which means that he now saves about 36 working days a year. He also figures his alfalfa crop for two seasons will pay the out-of-pocket expense of getting the field in shape.

—BOB SWANSON.

FRONT COVER.—Strip cropping, on contour of course, on five farms of the Tocopson Creek watershed, Chester County, Pa. An intensive drive is on, using the medium of neighborhood meetings, to bring into the conservation program all 75 farms on the watershed. The photo is by Hermann Postlethwaite.

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BETTER FARMING BRINGS HAPPIER LIVING

By CAL ROARK

Twenty-seven years of renting and row cropping the other man's land—the best years of one's life, from 28 to 55 . . . .

Twenty-seven years in the fields from sunup 'til sundown—toiling with an old mule and a single-stock plow, breaking, planting, cultivating, picking cotton . . . .

Twenty-seven years raising six boys and two girls, thinking that "if I don't plant nearly the whole place to cotton we'll perish." . . .

Twenty-seven years of washing and scrubbing and cooking and sweeping a yard free of grass, without the aid of home conveniences . . . .

THAT'S the kind of picture 58-year-old J. B. Weaver and his wife painted for me when I visited them recently at their 176-acre farm 6 miles south of Hartwell, Ga.

But it's all different now. Fact is, life on this Hart County farm is about as different now as daylight is from darkness.

The Weavers own the farm that they rented for 27 years. They bought it 3 years ago, paid for most of it with 1 year's earnings, don't owe a dime on it now.

They sat in lawn chairs out on the soft grass sod while the hot Georgia sun filtered through a canopy of pecan tree leaves, as they told me how different life is for them now. A few yards away their house beamed from the effects of $3,000 spent on renovations and modern home equipment.

Two children still at home share the comforts and pleasures of good farming. Only 41 miles away, two other children attend the University of Georgia. And two sons farm nearby.

Near the Weaver home, tractors and combines and equipment that goes with them stood in readiness to do with ease all the things which once made farming so hard.

I jokingly chided the burly farmer about staying home in the shade while others worked hard in the

Weaver checks oat field and figures the crop of 50 bushels per acre will be ready to combine in 10 days.

NOTE.—The author is information specialist, Soil Conservation Service, Spartanburg, S. C.

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dry cotton fields beneath a broiling sun. "I worked hard for half a century. I think it's time to slow down," he replied.

Weaver is one farmer who could slow down. The garden nearby needed little attention other than harvesting, which could be done in the cool of the morning. The fish pond beyond beckoned only when fishin' was good. The dense, cool, 3-acre patch of pines set in 1931 wanted only to be left alone to grow tall and straight for poles and saw logs.

The 90 acres of oats and wheat asked only for a few more weeks to ripen before the combines whipped the plump grains from their heads and flung the straw back on the land to make it richer. Underfoot, the tiny Kobe lespedeza plants cried only for the grain to be harvested so that they could cover the gentle slopes with a dense, rich growth.

Across the road in front of the Weaver home, a wide curving strip of tall fescue and Ladino clover enclosed by an electric fence continued to grow and ripen seed for another year's planting elsewhere. Beneath it rested the remains of a waist-deep gully where muddy waters once angrily surged toward the Savannah River after every hard shower. All this meadow waterway seemed to call for was refreshing runoff water from terraced fields covered with oats and lespedeza. Weaver could only wish for that, and wishing came easy on that new grass lawn—the first grass they'd ever had in their yard.

The only row crop on the 125 acres of cleared land was 8 acres of corn, and it required little attention on the richest land available. Lime and fertilizer and legumes made this and other land on the Weaver farm grow crops fast and yield bountifully. On one 20-acre field last year Weaver's son saved 1,000 bushels of oats and $1,100 worth of Kobe lespedeza seed.

In the lowland pasture fields 18 grade and registered cattle—the beginning of a beef herd of 50 brood cows—harvested their own feed by choice. Fifty acres of Weaver's best land are now in fescue-clover pasture to provide most of the grazing for the enlarged herd.

"This kind of farming is so much easier than what I used to do; it's almost like doing nothing," Weaver said as he glanced over the waving grain fields. "It's paying off as much again as cotton farming, and it's not half as expensive."

He was talking about conservation farming, of course, the kind which SCS technicians in the Broad River Soil Conservation District helped plan and apply.

Even though Weaver "paid for this farm a dozen times before buying it," he at last is tasting the fruit of ownership and good husbandry. His is not the only case of its kind in the South; it's happening all the time.

That's why I left the Weaver farm that hot day with a deep-seated hope for all those others who have not yet learned that a good way to obtain economic security is by "using the land wisely and treating it kindly."

SEEK COMMON OBJECTIVES.—Dillard B. Lasseter, administrator, Farmers Home Administration (left), and H. H. Bennett, Chief of the Soil Conservation Service, planning closer cooperation between the Soil Conservation Service and the Farmers Home Administration.

The SCS, through cooperation with local farmer-rancher soil conservation districts, has been and still is helping FHA farm ownership and adjustment borrowers develop and apply conservation plans based on land capabilities and conservation practices which result in sound conservation treatment and land use, thereby leading to loan repayment and satisfactory family living.

The FHA expressed a desire to develop further this cooperation and teamwork. Lasseter asked all State directors to encourage farm ownership and adjustment loan borrowers, and all applicants to whom they expect to make loans, to obtain SCS assistance if they do not have a current conservation plan. He also asked the State directors to include funds in loans, if necessary, for carrying out the plans.

Bennett requested all SCS regional directors and State conservationists to encourage and assist the conservation districts to help FHA borrowers in every practicable way.

PUBLIC RELATIONS.—Representatives of newspapers and banks in the Wright County (Iowa) Soil Conservation District were guests of the district commissioners at a regular monthly meeting recently. This was the first of a series of meetings in a plan to get more people interested in the work of the district.

NEBRASKA STORM PROVES VALUE OF CONSERVATION WORK

By A. E. McCLYMONDS

ON THE night of May 9, 1950, Sam Pickerell stayed in the house on his farm 2 miles south of Unadilla, Nebr., where he has lived for the past 30 years. Old Jupiter Pluvius had upset his bucket. It was no night for man or beast to be out. The water fell in sheets.

The country knew the next morning how much water fell, for the rain caused one of the worst floods in Nebraska's history, and one of the year's worst in the United States.

The heart of this furious storm covered a relatively small area. Yet, over a score of lives were lost. The force of a sudden sweep of water down a tributary valley was enough to lift a large passenger bus from the highway near Unadilla and into the Little Nemaha River some distance away. Houses disappeared completely. Railroad lines were ripped up.

Early the next morning, when he went to look things over, Sam Pickerell smiled. He found that, aside from a little soil movement between terraces on his cornland, his farm was apparently unhurt. Contoured, terraced small grain and alfalfa, and grassed waterways, bore no evidences that soil had been lost.

More than that, no water had gone through the flood spillway of his large dam. It had been built to give him 15 acre-feet of permanent storage and 25 acre-feet for just such an emergency as this. A square, reinforced concrete drop inlet was installed to bring water down to the permanent level.

"This time," Pickerell said, "the water almost reached the spillway, but not quite. It took hours for the runoff water to get away through the drop inlet. There was no other way, since the whole 215-acre area drains to the pond."

Not only does Pickerell feel that he was not hurt, but he is certain that the way runoff from his land was controlled helped to reduce damages lower down on this small tributary watershed to the river.

Contrasts! Lower picture, on Arnold Rinne farm, 4 miles south of Dunbar, Nebr., was taken shortly after torrential rainfall that resulted in southeastern Nebraska floods May 9 this year. Rinne cooperates with Otoe County Soil Conservation District; note that corn stalks on ground have hardly been disturbed. Nor are there other evidences of land damage. The upper picture is of a very different sort; it was taken immediately across the road from the Rinne farm. This land is not protected by conservation; note evidences of severe erosion. The pond in background contains little water; it is silted almost full.

This happened in the section where rainfall was heaviest and most violent, and where runoff water and flooding streams generally raised unmitigated hob with land and people.

A cooperator with the Otoe County Soil Conservation District, Pickerell is one of the growing

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NOTE.—The author is regional director, Soil Conservation Service, Lincoln 1, Nebr.

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number of farmers who had developed complete soil and water conservation plans for their lands with the aid of Soil Conservation Service technicians. Their experiences are important, because they gave the Soil Conservation Service some of the needed field evidence of the effects of land treatment on the behavior of flood waters on watersheds.

The total area affected by the storm and floods in southeastern Nebraska early in May was 3,600 square miles in extent. Plotting the storm on a map revealed that it centered in a space of not over five townships that encompassed the ridges, or divides, between the headwaters of Salt Creek, flowing north to the Platte River; Weeping Water Creek and Little Nemaha River, flowing east and southeast to the Missouri River; and Indian Creek, flowing southwest to the Big Blue River.

Within this storm center, rainfall was reported to be 10 inches or more. That is at the rate of nearly 600,000 gallons per average city block. It fell in a few hours. Around this center was a band in which the reported rainfall was 6 to 10 inches. In other parts of the storm area, rainfall ranged from less than 2 inches up to 6 inches. Cornland was loose, being in various stages of seedbed preparation, and oatfields had little protection because the crop was late.

Surveys made by the Soil Conservation Service brought a report that losses from the flood amounted to $53,041,322. Of this, sheet erosion on the upland accounted for 88 percent. Gully development and harmful deposition on the upland amounted to slightly over 1 percent; bank erosion, scour, harmful deposition and swamping on bottom lands, 2 percent; damage to agricultural establishments, 3 percent; damage to county roads and bridges, 6 percent. Nine-tenths of the damage to agricultural establishments occurred on the flood plains.

These damages do not include damages to municipal, urban, or State property, Federal and State highways, railroads and communications services, which were inventoried by the Corps of Army Engineers.

The Soil Conservation Service found that while wheat was well up and offered much resistance to erosion, some wheatfields on which conservation was not practiced lost as much as 1 inch of soil or about 135 tons per acre, and oatfields lost as much as 2 inches of soil. Cornfields not protected by conservation measures suffered most heavily, instances being found where the losses were 4 inches or more—at the rate of over 530 tons of soil per acre.

These figures assume greater importance when the type of agriculture and terrain are considered. The land is gently rolling—at places quite steeply rolling. Three-fourths of it is in cultivation, only one-fourth in grass. Sixty percent of the cropland is devoted to corn, 25 percent to wheat, and 10 percent to oats. The rest of the cropland is in minor crops.

Few farmers in the storm area escaped damage, but those with conservation measures applied were hurt less than those without conservation. Further, it was observed, damage to conservation farms varied according to the extent to which the complete soil and water conservation plan had been applied to the land.

These surveys unmistakably showed that conservation paid the farmer well in this time of emergency. They compared the flood damage on land not protected by conservation measures with those on land under good conservation plans. On unprotected land it was found that productivity was reduced by soil losses from $1.62 to $7.21 a year on the average in the major crops—corn, wheat, and oats—compared with the conservation farms. These losses will go on from year to year until measures to restore productivity are undertaken.

The wide spread in the benefits of conservation in reducing upland flood damages is because of different intensities of rainfall. The lower figure is applicable in the 0- to 2-inch rainfall zone. The higher figure applies in the zone where rainfall was 6 inches or more. In between, in the 2- to 6-inch rainfall zone, the calculation is $5.91 an acre. The dollar value of the reduction in flood damages resulting from adequate soil conservation measures rose sharply as the intensity of rainfall increased.

Savings were to be found all through the area. One good example is the Swain Nielson farm near Weeping Water, which is in the Cass County Soil Conservation District. Waterways were established and terraces newly built on the 10- to 12-percent slope. After the storm Nielson found that the terraces had trapped quite a bit of silt, but there was no evidence of severe erosion on the fields, and little silt was deposited in the waterways. He only had to look at land around him that was not protected to appreciate the saving.

Harold Thomassen, in the same area and cooperating with the same soil conservation district,

While the runoff from torrential rains was ripping away at farms and sending southeast Nebraska streams on a rampage, Sam Pickerell, 2 miles south of Unadilla, rode through the storm with little harm to his land. More than that, he helped reduce the flood of water in the small tributary below his place because he had a dam that was designed with some capacity for the temporary storage of flood water. A cooperator with the Otoe County Soil Conservation District, he has a complete conservation plan on his land. This picture shows the dam, pond, upper end of drop inlet, and part of the 215-acre watershed draining to the dam. The dam provides permanent storage capacity of 15 acre-feet and a temporary flood storage capacity of 25 acre-feet, with the drop inlet governing the flow of water from the pond. During the storm, the water in the pond almost reached the emergency spillway. All of the excess water was disposed of by way of the drop inlet.

"had the book tossed at him." He had built the planned terraces on half of his 120-acre farm, but had not gotten around to building the others. After the storm he found the unterraced land "a mess"—gullied and soil taken almost as deep as the land had been tilled. The bottom land along the little stream through his farm was under deep deposits of silt from upstream. But although his terraces had trapped several inches of silt, the field where they were located was hurt little. "The silt in the terraces is right up there where I can plow it back out, not in somebody else's creek bottom," he remarked.

The quoted figures on the savings through conservation do not tell the whole story, since they deal only with the conservation of land in cultivation. The farms of cooperators with soil conservation districts, which embrace the whole flood area, have done considerable seeding of grass in getting their conservation plans well established. A goodly part of the grass protects waterways, part is in crop rotation, and much of it is seeded on land not suited for cultivation.

Little, if any, damage was done by upland-flood runoff on properly managed grassland. Instead, good stands of grass served to retard the flow of runoff. The land that is not suited for cultivation is the most erosive when it is in crops. Evidence on all sides pointed to the probability that this land now in grass would have been seriously damaged if its use had not been changed. In fact, it appears likely that restoration to grass of all such land in the storm area would have done more to reduce sedimentation damage than any other conservation measure.

Some of these conservation farmers, particu-

larly livestock feeders, have put most of their land to grass—even some that is first-class cropland. On these farms one could see the effectiveness of grass in controlling water and siltation.

Sterling Ingwerson, near Plattsmouth, a cooperator with the Cass County Soil Conservation District, is one of them. His land is terraced and grass waterways were built. Now he has nine-tenths of his farm in grass. Something over 8 inches of rain fell in that area the night of the big storm.

"I went over the farm the next forenoon," Ingwerson said. "The terraces were still half full of water. The water was clean and flowing slowly into the waterways. We didn't have any damage, except a little bank cutting on the creek that flows through the farm. That water came from upstream."

No one knows, of course, how much of that rain was kept on the Ingwerson farm. In view of what Ingwerson found, however, it seems certain that a large part of the water was not permitted to escape.

Alvin Ross, near Syracuse, cooperator with the Otoe County Soil Conservation District, hasn't gone so far as Ingwerson in changing land use. He has grass in his crop rotation and well-established grass waterways, but his other grass seeding is land found not suited for cultivation. Generally, the other land is in cultivation. Other practices were established as needed, of course, such as terraces, contour farming, proper rotation of crops, and well-managed uses of the grassland.

There is one 40-acre watershed on this farm that drains to a dam built in what was a gully or dry stream course. Grass surrounds the pond and extends back some distance from it. A metal tube a little below the level of the flood spillway usually disposes of the excess water, letting it down into the small stream bed below. There is no other way for the water to go, except to the pond.

"We had a 4-inch rain a couple of nights before the big rain, and then an 8-inch rain the night of May 9. I didn't know what I'd find the next morning," Ross said.

"Well, the conservation measures must have controlled the runoff pretty well. You could see where a little water ran through the flood spillway, all right. Not much, though. The tube took care of nearly all of it.

"There was a little silt in the terrace channels on the cultivated land, but it came from only about the lower 20 feet of each area between terraces. My whirlwind terracer will toss the soil back upslope that far, so I figure the land will be about the same as it was before the storm. I couldn't find any indication of silt in the waterways or around the pond."

Only one man was found who watched how water acted on conservation-farmed land. He is Lawrence Liebers, who is in partnership with his father, O. H. Liebers, and his brother, Otto, on a dairy farm just south of Lincoln.

Their bottom land was damaged by the raging waters in Salt Creek, but they could not help that. That water came from upstream. But on their upland, where they had control, the story was different. They are cooperating with the Lancaster Soil Conservation District.

Lawrence, standing in one of the farm buildings, watched one of their fields across the road during the storm. It was land that was pretty badly run-down when they bought it, Lawrence said, but after being terraced and contour farmed, and with crop residues and other organic matter being put into it, it was considerably improved. Even so, the oats stand was poor at the time.

"We had about 4 inches of rain in a short time," Lawrence explained. "You could see the terraces fill. Some even spilled over a little. But instead of going right down hill, the water had to move slowly across the slope to the waterway, which you can see has a heavy grass cover. The waterway looked like a lake, but it handled the water in good shape. I haven't noticed evidence of silting in the waterway and the field wasn't hurt to amount to anything. Oh, there is a little silt in the terrace channels but that'll be easy to take care of."

The story was the same wherever one went throughout the flood area. There was too much water to have prevented a flood, but where there was good conservation on the land, mighty little soil left the farm. And where dams were correctly designed for their drainages, provided with correctly designed tubes and spillways, and with drainages protected properly with conservation measures, they functioned to control the escape of water in an orderly manner after it had left the fields. Nor were they subject to reduction of capacity through silting.

There are no reliable figures on how much water ran off these farms. Due to the violence of the storm, however, even the land most completely

protected by conservation must have lost the major part of the rainfall. So, it was a prodigious task that these conservation measures performed. If the rain was fairly uniform on the farm, water that fell on the drainage to Sam Pickerell's dam amounted to about 170 acre-feet, but his emergency flood storage was only 25 acre-feet. The conservation plan on the land controlled the movement of the runoff water so that it was disposed of through the drop inlet over a period of days. On Sterling Ingwerson's land, the rainfall was about two-thirds of an acre-foot of water per acre, yet the next forenoon the terraces were still half full and the water was moving off slowly. And on the drainage to Alvin Ross' pond, about 25 acre-feet of water fell only a couple of days after another storm half as heavy. The pond was full, and had no emergency flood storage, yet the movement of water was controlled so that all but a small part was disposed of through the 30-inch tube.

Those are the hallmarks of good land treatment and in them is the hope for holding flood losses on the upland to the minimum and protecting the downstream structures from destruction by silt and other debris.

DRAINAGE IN REVERSE

By M. S. McMURTREY

ALL IS not drainage in South Dakota! Water is used there to *create* wildlife habitats. A good example is the farm of Leon LeClaire, a cooperator with the Beadle County Soil Conservation District. There is a slough on his farm that covers 70 acres when it is full. He now diverts water to the area to give stability and insurance against the loss of both muskrats and ducklings during dry years.

"The slough was dry when I bought the place in 1943," LeClaire said. "In 1946 we moved onto the farm, requested assistance from the soil conservation district, and started to develop the farm conservation plan with the aid of Soil Conservation Service technicians.

"At this time water was in the slough, and the bulrushes, cattails, and other aquatic plants had come back enough to make the area attractive for muskrats and waterfowl. During the years the trapping season has been open in South Dakota, the take of pelts has averaged over $200 annually.

"The only fly in the ointment is that in the past the slough has become dry at times, forcing the muskrats to leave the area. When it filled up again, it took time for the 'rats to return."

When a survey showed that the bed of a nearby intermittent creek had a higher elevation than the slough, there was no question of the best land use for this area by either LeClaire or the SCS technician who helped him draw up the conservation plan for the farm. A cut was made through the low divide "hogback" and a galvanized culvert 24 inches in diameter was installed leading from the stream to the slough. A gate was put in the culvert to regulate the flow of water in the slough. A permanent marsh can thus be maintained by stabilizing the water level.

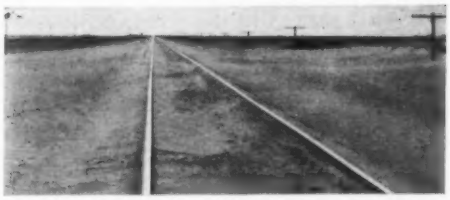
A dike was constructed at the old outlet of the slough to raise the water level 2 to 3 feet. This makes the deepest parts 5 feet deep. The extra depth is for insurance against long, dry periods and also to furnish some free water below the ice through the winter months, making rootstocks and tubers available to muskrats when other food is scarce. The dike will force the excess water, if any, out over a natural grass-covered spillway.

Another source of water in the early spring is a low place in a nearby field that is being drained into the slough. This 3-acre area dries up too early in the season to be of much value to wildlife, but not early enough to avoid lowering the farm income by interfering with farming operations at planting time.

With installations to control the water level in the slough, LeClaire is looking forward to a high, sustained annual yield of muskrat pelts. He even hopes to improve the 'rats by the introduction of the dark-furred strain.

Besides improving the habitat for muskrats, LeClaire pointed out that every year when water was available a large number of ducks were produced on the marsh. With permanent water, this 70-acre marsh will be a valuable migratory-waterfowl nesting area.

NOTE.—The author is regional biologist, Soil Conservation Service, Lincoln, Nebr.



This is the condition that prevailed in May 1939. No wonder that railroad officials considered pulling up these tracks in favor of another right-of-way!

STILLING THE DUNES

By HUGH H. BENNETT

IN 1940 I visited the John Martin Dam, then in process of construction by Army Engineers, across the Arkansas River in southeastern Colorado. I had gone there to examine the sand-dune stabilization work being carried on under the supervision of Clifton L. Etter of the Soil Conservation Service in cooperation with the Army Engineers, who were building the dam.

Construction operations had bared to wind action much sandy ground along the Santa Fe Railroad. The tracks had been moved a short distance south of the prospective reservoir. There were 1,200 acres of critically unstable sand along the rail line, including dunes on the march. And it was this area the Service had been asked to help stabilize.

One inexperienced with wind-drifting sand in a dry climate might have suggested, offhand: "Plow up the stuff and seed it to grass or plant it to trees."

Sounds like good advice, but it isn't—not for blowing sand in southeastern Colorado. When it comes to calming deep, loose, dry sand bared of its protective cover of vegetation and already blowing with every breath of wind, plowing only intensifies the movement. Seed it to grass or plant it to trees, and in a little while seed and trees are blown out.

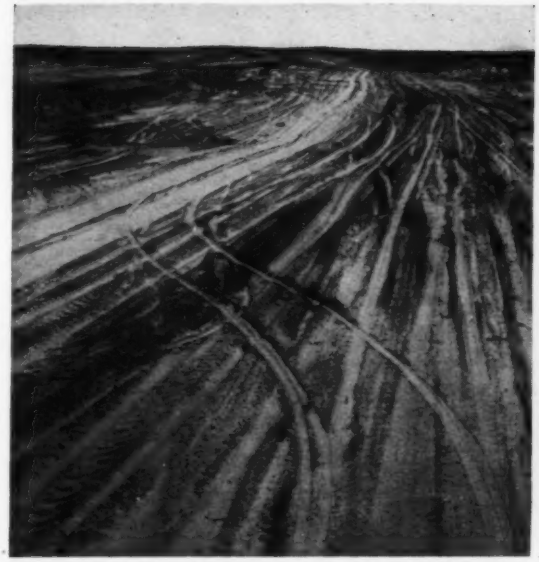
When I was there first, I was shown how the loose sand covered with petroleum was again on the move a few days after application. That method, while it may help in calming ocean waves, is of little value for subduing the restless sands of a subhumid climate. Various other measures had been tried. Everything had failed but one thing. The one thing that had worked was a combination of drilling in adaptable grass seed and immediately covering the ground with a mulch of wheat straw.

At this point the reader may be wondering why the Soil Conservation Service was called in on the job of calming the sands way out there in the treeless plains. Here's why:

The United States Government was building the dam, but first it had to move a railroad. Everybody wanted the dam so that floods could be abated and some of the valuable water that had run to waste could be held back for better irrigation of the croplands. If something wasn't done to calm the dunes, miles of the Santa Fe tracks would have to be relocated when the dam was completed and the gates closed to avoid submergence. Moving them to the north side would involve the building of two bridges, one to get over to the north side and another to get back to the south side farther upstream. It would involve also the purchase of some 17 miles of right-of-way through valuable irrigated farm land on the north side, as well as much costly track construction.

All these bills would have to be footed by the Federal Government—the taxpayers. They added up to a sizeable sum.

The Santa Fe Railroad was not responsible for the situation, and it was fortunate that it wasn't unduly stubborn about what to do. Officials studying the situation on the ground had agreed that if the tricky sands could be completely stabilized, they would be willing to move the track to the south through the dune area. One of them had seen some of the sand-dune stabilization work which had been successfully carried out by technicians of the Soil Conservation Service during the height of the dust storms, right in the heart of the old Dust Bowl, near Dalhart in the Texas Panhandle. This individual may even have seen the famed crow's nest, which in the dry, dusty thirties had been built of pieces of wire because there was no plant material for the construction of a raven's home. Also, he may have heard of the success the Service was having at the time in calming a 20-mile stretch of costly moving sand dunes just south of where the Columbia River enters the Pacific Ocean, or of another outstanding success in stabilizing drifting sand in west-central Michigan.



Borrow-pit areas adjacent to fill before stabilization.

So, the Soil Conservation Service was called in. One technician—Cliff Etter—was to do the job. When I was there the first time, he already had made some convincing progress. He had gone far enough to feel assured the job could be done, and on time. I was driven over the few negotiable trails through the dunes, but for the most part it was necessary to walk. The car wouldn't roll through the loose sand except where the wheel tracks were padded with yucca leaves or straw.

The situation looked tough to me. I asked Etter, "Think you can do it?"

"Sure," he said with comforting assurance.

"Anything I can do to help you?"

"Yes."

"What?"

"See that patch of sagebrush over there?"

"Yes, what about it?"

Full speed ahead! The sand no longer drifts. Vegetation has command of the situation on the south side of the Arkansas River at the John Martin Dam.

Stabilized borrow pit with high growth of sand reedgrass along Santa Fe line. Bennett's expression seems to challenge the wind to do its worst.

"There are some clumps of big bluestem scattered through the sage. Dig up some of 'em and plant 'em over on this bare sand here."

I did. And 10 years later, on this last trip in August 1950, I asked Etter how my planting of big bluestem had turned out. "Fine," he replied, "I'll show you."

The grass was 6 feet high and plenty thick.

On this last trip I was driven by car at a good gait all through the subdued dunes, although the grass was too thick in some places to make much progress.

Some of the old bare dunes outside the stabilized area were still blowing, but they had not encroached on the grass-protected area, now a veritable oasis in the desert.

The principal grasses used were little and big bluestem, sand reedgrass, blue grama, switchgrass, sand dropseed, and sand lovegrass. Every one of these had succeeded and, together with a sprinkling of wild sunflower, had tied down the sand so well that even the Chief and the Superchief trains go through the area like rockets.

In a few places trees had been set out after the grasses had taken hold. Most of them had survived, but some, especially the conifers, had not made much progress because of depredations by rabbits. Russian olives apparently had done better than the other trees. The cottonwoods had

Bent County scene, 1940. That's Hugh Bennett, with foot suspended in midair, at crest of 30-foot dune.

survived, but only about a fourth of them had made good growth.

A cloud blotted out the sun as we came into the area in mid-August 1950. The temperature was delightfully pleasant. There was a drizzle of rain which later changed to a downpour that extended to a large area of parched land to the east. Hundreds of mourning doves rose from the ground as we drove through the grass. They made a merry whistling sound with the fluttering of their wings. Other birds were present, providing a variety of cheerful calls. In one place where the cottonwoods were thickest there was a lively chattering suggestive of a gathering of parakeets along the border of a Central American jungle at sundown. Deer and antelope were reported as spending considerable time in the area.

Truly, a very live oasis had replaced what had been a dreary patch of worthless sand.

When I saw this treated land, I knew at once that man had again won his combat with the wind. Such work is tough always; it has to be done scientifically, according to the kind and need of the land. If not done this way—and very few know how to do it—failure is preordained. This job along the Arkansas had been carried out scientifically, step by step, with every plant and every practice fitted into its particular niche in the planned, coordinated pattern, according to basic procedure of the Soil Conservation Service.

I found great satisfaction in this completed task, as I had found in the highly successful sand-dune work at Dalhart, Tex., at Astoria, Wash., and in Sullivan's Sahara in Michigan.

And again I can say, and do say, no better conservation work has been done, or can be done, anywhere. I have seen the stilled sands of southern France and the restless Saharan sands in North Africa, but what we have done here in America gives me renewed faith in our capacity to cope with any erosion problem.

Now let's look at the cost of the job and while doing so let's keep in mind what we occasionally hear from the uninformed: "Soil conservation work today is too refined. It's impractical. It will never get the job done."

For shame, is my answer to all such nonsense. People should inform themselves—get the facts. Such utterances are not only completely out of focus with scientific principles and procedures as well as with the truth, but they could encourage despondency on the part of some segments of the public. Let's get the thinking cleared up.

Here is the truth: The Soil Conservation Service did this sand-stilling job along the Arkansas, as requested, even more effectively than was expected. It was not known at the beginning that some of the grasses, particularly sand reedgrass, would lay down a broad mat of dead material some 3 inches thick and 15 or 20 feet across—as perfect a sand-control measure as the mulch of wheat straw that was used in getting the grass started.

As to cost: By not having to move the tracks of

Bent County scene, 1950. Again, it's Hugh Bennett with foot in air at same crest. With him is C. L. Etter, who supervised the stabilization work. The slope is now heavily grassed.

the Santa Fe north through the valuable irrigated land with all the accompanying costs, around $2,500,000 have been saved, according to my estimate.

And why should the Soil Conservation Service spend its funds to help a railroad get such a job done, someone might ask. Well, in the first place the Soil Conservation Service did not spend its funds on the job, although I can see no earthly reason why it should not have done so, if necessary, since the dam that was constructed has served to reduce flood heights and to conserve water for irrigation in an important agricultural area. No part of the direct cost was paid by the Soil Conservation Service, either for materials or for the salary of the one-man force.

The job could not have been done any other way. I am pretty sure nobody else had the know-how. The ability to cope successfully with difficult and unusual land problems has come to the Soil Conservation Service as a result of intensive scientific research and long experience. The victory on the Arkansas, like other triumphs of soil stabilization, pleases me immensely. I liked what I saw out there and I am making this report as a piece of good news from the conservation front.

UNIQUE CHURCH SERVICE.—Worshipers entering the Quitman (Ga.) Methodist Church September 10 were surprised at the unusual altar decorations. But when they turned to their bulletins, they found that the Reverend L. D. Shippey, pastor, planned a service on the common trinity of life—God, the earth, and man.

Rev. Mr. Shippey planned the unique decorations and service in response to an appeal to help promote Soil Conservation Week.

In brass urns back of the pulpit were fresh green pines. The table on the altar was centered with a large evergreen circle, a gold cross, an open Bible, a hoe, and plumb-line. The table was banked with ears of corn, tobacco leaves, and other Brooks County products.

These symbols had a background of religious significance. The circle of evergreens was suggestive of continuous renewal of life on earth and of its eternal promises. The triangle suggested the common trinity of life—God, the earth, and man. The hoe was the symbol of work, the plumb-line a symbol of God's justice, the Bible a symbol of God in history, and the cross a symbol of eternal life. The farm products typified "God giveth the increase."

This was one service where everyone had a souvenir to take home. Around the chancel rail were several hundred tall paper cups. The pastor did not explain the meaning of these until announcing the last hymn. He wasn't serving punch, he explained. Each cup was filled with soil from the church grounds. Two of the ladies of the church had planted a bulb in each cup. They suggested that each person present take a cup home, keep it slightly moist, and when the bulb blooms, cut it and take it to some sick person, a loved one, or a shut-in.

SOMETHING NEW.—Tom Powell, district conservationist, Shenandoah, Iowa, reports the first posthumous conservation farm plan. The plan will be carried out by a farm-management company and no changes can be made without approval of the soil conservation district.

QUAIL POPULATION BOOMS BECAUSE THERE IS WATER TO DRINK

By WILLIAM L. SOUTHWORTH

THE NEXT time you visit San Diego County, Calif., look up Billy Bevan and ask him about "quail guzzlers." You will meet a dynamic conservationist and hear a fascinating story.

If Billy Bevan is not at home on his avocado ranch just west of Escondido, or if he's not at the office of the Escondido Soil Conservation District—he's a director of the district—you'll probably have a long wait because the chances will be good that he's out inspecting quail guzzlers or taking another census of the district's booming wildlife population.

What is a quail guzzler? It's an ingenious device that makes it possible for quail and other small birds and animals to survive and flourish in areas where they would otherwise die of thirst. In many parts of southern California, water during the hot, dry summer months is the key to wildlife. With water and good management, you can have game birds. Without it, you can't.

The directors of the Escondido Soil Conservation District discovered this some years ago. Under Billy Bevan's leadership, they launched a large-scale, but highly secret, program of quail-guzzler construction. Today the district is famous in southern California for its abundant quail and other game birds.

Bevan and the district directors will talk freely about quail guzzlers. They will cite figures showing how the guzzlers have increased the quail population many times over. They'll tell you how many guzzlers have been installed in the district and even give you blueprints so you can build your own. But they won't tell you where a single guzzler is located. Nor will they take you out and show you one. The location of quail guzzlers is top-secret information for the simple reason that the directors have learned from bitter experience that there are still a few unsportsmanlike hunters who would like nothing better than to conceal themselves near a guzzler and "ground sluice" their limit in a few minutes.

NOTE.—The author is with the Soil Conservation Service, Portland, Oreg.

The story of quail guzzlers in the Escondido Soil Conservation District is largely the story of Billy Bevan's interest in wildlife. Bevan is probably more famous as a character actor in the movies than as a conservationist. He began his acting career in the old days of silent pictures as one of the "Keystone Cops" and is one of the few old-timers still playing character roles in the modern movies.

Some years ago Bevan bought a small avocado ranch near Escondido in San Diego County and went into semiretirement from motion pictures. One of the first things he noticed in the Escondido area was the absence of wildlife. He was at a loss to understand why. Thousands of acres of undeveloped land looked to him like ideal habitat for quail. Elderberry, wild buckwheat, filaree, burclover, deer vetch, and brome, all high on preferred quail menus, abounded. Dense thickets of chaparral, chamise, lilac, and scrub oak created good cover and near-perfect nesting conditions. What was wrong?

Billy Bevan took his puzzler to the California Fish and Game Commission. They told him the answer quickly—no water during the hot, dry summers when streams stop flowing and ponds and reservoirs dry up. They also told him there was a way to solve the dilemma. Ben Glading, chief of the commission's bureau of game management, had encountered the same problem as Bevan and had worked out an ingenious solution. He designed a sunken concrete tank with a small apron to catch winter rainfall. The tank was covered and provided with a small opening where quail and other game birds could enter and walk down a miniature ramp to the water. A punster with a flair for alliteration gave his device the name, "Glading's Gallinaceous Guzzler." (Gallinaceous for "Galiformes," which includes members of the quail, grouse, partridge, and pheasant families.)

When Bevan returned, he laid his findings before the board of directors of the Escondido Soil Conservation District. He urged a guzzler cam-

Coarse wire screen prevents leaves and twigs from clogging inlet. District directors make occasional inspections to clean screens and check water levels. Ranchers with guzzlers on property also help. Small depression ahead of inlet serves as silt trap. Billy Bevan, attending to screen, will remove collected silt before he leaves.

paign. The board agreed to back Bevan and told him to draw plans. Billy cornered Lee Woolsey, the district's technician from the Soil Conservation Service, and the two began working up specifications.

They estimated that a tank holding about 500 gallons of water would carry quail through from one rainy season to the next. By a simple calculation, they found that an apron approximately 10 feet square would catch enough rainfall to fill the tank. Winter rainfall in the Escondido area averages around 16 inches annually. To hold evaporation loss to a minimum, they decided to bury the tank and keep it covered at all times. Their specifications also included a settling basin so that silt would not muddy the drinking water. They included a screen at the inlet to prevent clogging by leaves and other debris. The final touch was to provide an easy way for quail to get at the water but a way that would prevent coyotes, cats, and other predators, from using the guzzler.

The precaution against predators was vital, according to Bevan. He says, "Quail won't go near a watering hole if it's used by coyotes or half-wild cats. Young quail are no bigger than a walnut when they want their first drink. But they'll die of thirst before they'll go near water where there's danger." He also pointed out that if large animals could get water from the guzzler, they would drink it all and not leave any for the quail.

Bevan and Woolsey used Glading's original idea for solving the problem of access to the water.

They designed a sloping ramp which led down into the storage tank from a small opening, just large enough for quail to enter. As a further precaution, they added a coarse wire screen at the opening, large enough for quail to get through. but too small for cats and other quail-hungry animals.

In complete secrecy, Bevan and Woolsey took their plans and enough sand, gravel, and cement to a remote and little-frequented area in the district. There they built the first quail guzzler in the district. True to their expectations, it filled with the first rain and has remained filled with water ever since. It was only a matter of weeks until the value of the guzzler was apparent; approaches to the watering ramp were littered with the tell-tale tracks of quail. During a single count, 25 birds were seen to step up and quench their thirst.

Directors of the Escondido Soil Conservation District are thoroughly sold on quail guzzlers. Within the past few years, the district has been instrumental in getting more than 40 guzzlers built in the county. Many of these it has built itself. Others have been constructed by the Escondido Fish and Game Association and many more by the State Fish and Game Commission.

The procedure for getting guzzlers installed is simple now, according to Bevan. "Whenever a grower in our district applies to the board of directors for conservation help we ask him about quail on his place. The grower usually says, 'There are a few quail, but they don't have any water.' We tell him we'll fix that with a guzzler. We usually do if he's the right kind of fellow."

The directors of the Escondido district place a great deal of emphasis on the term "right kind of fellow." They insist first of all that anyone who has a guzzler on his place must keep the fact to himself. From bitter experience the directors have learned that not all hunters necessarily are conservationists. True sportsmen, of course, are welcome to hunt in the Escondido area during open seasons, but none of the directors wants a return to conditions of a few years back when quail were well on the way to becoming extinct.

Once the district decides that a property owner will cooperate and that a guzzler will be worth while, it will arrange to have one installed. At first, the local district paid all bills. Later the Escondido Fish and Game Association helped. As the program boomed, however, the financial burden became heavy—costs ranged up to $80 per installation. The district and the sportsmen's association asked the San Diego County Board of Supervisors to take over the job of financing. The board was willing, but it, too, was short on funds.

Billy Bevan had a quick solution for that. He suggested that part of the fines collected for violation of hunting and fishing laws be used to finance the construction of guzzlers. The County Board of Supervisors gave it quick approval. Bevan thinks the arrangement is a shining example of the right way to administer justice. With a chuckle, he says, "When the warden brings in a game violator, we erect a monument to him—a new guzzler. If those fellows want to shoot our quail out of season, we arrange for them to buy our birds a drink."

Bevan also likes to point out that the present method of financing guzzlers doesn't cost the taxpayers of San Diego County anything in added taxes. The only maintenance required is an occasional inspection to clean out silt screens and check for possible breakage by livestock. The district directors and property owners on whose land the guzzlers are located look after maintenance in the normal course of their work.

Few people encountering one of the ingenious watering devices in the rough, brushy hills surrounding Escondido would guess its purpose. Many of the older installations are now almost completely hidden in a tangle of scrub oak, chamise, and other native cover. I stood with Billy Bevan at the site of one a short time ago, and he said, "I'll wager there are a thousand quail within a quarter-mile radius of where we stand. Listen to 'em talk! This is wonderful quail country—if you have guzzlers."

MEETING A FISH SHORTAGE.—With a shortage of fish for stocking farm ponds indicated at some Federal and State hatcheries, because of inroads made by diseases, Nicholas County, in the Elk (W. Va.) Soil Conservation District, is trying something new. John Curry, county agent, has a farm pond that he watches very carefully.

Last spring when the bass nests came off, SCS technicians constructed a small pond about 5′ x 10′ x 3′ and installed piping to bring in the right kind of water. About 2,000 bass were taken from Curry's pond and put in this holding pond. As new ponds are completed in the county, fish are removed for stocking.

A slightly larger pond on the Walter Legg farm has been used 2 years in the same way to hold bluegills. If the new bass deal works well, SCS and wildlife technicians say it can be expanded as one answer to the problem of quickly stocking newly constructed farm ponds.

Portrait of the late Edgar Clifton McArthur by Grace Annette DuPré.

PORTRAIT OF A PIONEER

A PORTRAIT of the late E. C. McArthur, first president of the National Association of Soil Conservation Districts, was presented to Clemson College by the South Carolina Association of Soil Conservation Districts and unveiled with appropriate ceremonies in the College Chapel on August 17.

Special guests at the ceremony included Clay H. Stackhouse, of Wakeman, Ohio, vice president of the National Association; Mrs. Ellen Cobb, former executive secretary; Grace Annette DuPré, New York artist who painted the portrait, and T. L. Gaston, assistant to the Chief of the Soil Conservation Service, who was the principal speaker for the occasion.

Joe B. Douthit, Jr., president of the South Carolina Association of Soil Conservation District Supervisors, who presided, presented the portrait, which was unveiled by Bille Joe McArthur, grandson of the late Mr. McArthur.

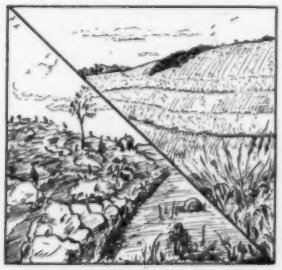
President R. F. Poole, of Clemson College, accepted it as "the portrait of a fearless leader and searcher for truth." He said it would be hung somewhere in the college where it would serve as an inspiration to future generations as the portrait of "a great teacher and a great missionary."

Gaston pointed out that McArthur had served as one of the first supervisors of the Broad River Soil Conservation District in South Carolina, and had promoted the organization of the South Carolina Association and later the National Association of Soil Conservation Districts.

McArthur's code, he said, could be expressed by some of the phrases he frequently used, such as "Where there is a need, there is an opportunity and a great responsibility," and "Plan your work and work your plan." He said McArthur also liked the quotation from Shakespeare:

"This above all, to thine own self be true, and it must follow as the night, the day, thou canst not then be false to any man."

Telegrams were received from representatives of a number of groups during the ceremony, including Waters Davis, Jr., president of the National Association of Soil Conservation Districts, and area vice presidents, meeting at Lincoln, Nebr., and from H. H. Bennett, Chief of the U. S. Soil Conservation Service.



FIELD-DAY DIVIDENDS.—Last August, on the first anniversary of a conservation field day held at W. Guy Smith & Son's Balsam Spa, the directors of the Saratoga (N. Y.) Soil Conservation District took inventory. They found wheat yielding more than 50 bushels an acre where almost nothing was growing in 1949, a second cutting of alfalfa where a stone wall had stood for almost 100 years, and Ladino clover and birdsfoot trefoil flourishing where only blackberries and steeplebush had previously grown. Most of this increased production was coming from land once considered too rocky and bushy to produce anything, or too poorly drained. Smith & Son will clear more land, remove more hedgerows and bury more stone walls this year. Where the wheat is growing on reclaimed land, new pasture will be seeded.

1,000 MILES BY BUS TO LEARN MONTANA'S STORY

Members of caravan view conservation practices from lookout tower built for purpose on Oscar Hippe farm in Sheridan County.

By B. W. BRINK

MONTANA is the third largest State in the Union. It is nearly 550 miles from east to west and 275 miles from north to south. It has vast areas of range and dry-farming land, vast areas of forest, much irrigation. Part of the State is in the Northern Great Plains, part in the northern Rocky Mountains.

These are not chamber of commerce statistics to advertise the State's opportunities. They are cited to explain why it is so difficult for the average person to know the State's resources and the problems involved in their conservation. The people in Montana can be separated by distance enough, and by environments different enough, to make them virtually strangers to each other.

A unique organization—The Montana Conservation Council—is working hard and successfully to bring people and their problems closer together. The council has no rules, no dues, and the people of Montana interested in the conservation of our natural resources make up the membership.

For 2 years in succession, as one activity, the council has organized and carried out a week-long self-financed Conservation Caravan by chartered bus. That is, expenses of the caravan were paid by those on the trip or by some sponsor; there was no "angel."

In some cases soil conservation districts paid the way for one of the supervisors, so that he might gain information that would make him more valuable to the district. In others, civic clubs have seen to it that a school teacher or a farmer was included. Most riders, however, paid their own way.

Dr. Nicholas Helburn, professor of geography and geology at Montana State College, Bozeman, is the current president of the Montana Conservation Council. He succeeded Dr. Kenneth Davis, former dean of the school of forestry at the State university but now a member of the University of Michigan faculty. Mrs. Carolyn Madden of Anaconda is secretary.

The council was formed specifically for education.

One committee has the purpose of helping to get more conservation education into the schools. Pilot courses have been inaugurated at Anaconda.

The other committee is charged with organizing and conducting the caravan. Last year's caravan covered the western or mountainous part of the State and was attended by people from all parts of Montana. This year's was devoted to the eastern or Northern Great Plains portion and it, too, had people from all sections.

Dubbed "a rolling classroom" by one of the State's prominent editors, the caravans are by no means for "sightseeing" only. Between stopping points, the caravanists are addressed on conservation subjects appropriate to the area through which they travel.

Each morning the leader of the day's program boards the bus. He may be a district leader, a local farmer, or a representative of a government agency operating in the area. In any event, he is a person who has definite information to bring to the group.

After an introduction to the group, he picks up the microphone and the program gets under way. Descriptions of what is seen on the route are in-

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NOTE.—The author is extension soil conservationist, Soil Conservation Service, Bozeman, Mont.

termingled with discussions. Nor are the sessions cut and dried. Questions usually flow rapidly. Arguments develop. Everyone has his say.

And in the evening there usually is a meeting with local organizations where the group stops overnight. Often a banquet is provided, where there is an opportunity to spread the educational benefits still further through talks by members of the caravan.

The caravan this year is a good example. Organized under the chairmanship of Floyd Larson, of the Bureau of Land Management, Billings, it covered over 1,000 miles.

Starting at Miles City, the caravan stopped en route at the United States Range Experiment Station at Fort Keogh near Miles City, the Custer National Forest, the Medicine Lake bird refuge, the Fort Peck Indian reservation, the Nashua diversion dam, the Buffalo Rapids irrigation project developed jointly by the Bureau of Reclamation and the Soil Conservation Service under the Wheeler-Case Act, and farms and ranches all along the line.

Rolling classroom devoted to conservation at 50 miles per hour. Topics pertain to areas through which caravan moves.

The caravanists learned about the problems of forest conservation in this part of the State, of

Caravanists learn about value of irrigated pastures as conservation practice on John Sura farm near Glendive, Mont. This is one of the farms in the Buffalo Rapids Wheeler-Case project, where the Bureau of Reclamation developed the water supply and the Soil Conservation Service developed the land for irrigation and sold the irrigated units. (Bureau of Reclamation photo.)

range conservation, of wildlife conservation, of soil and water conservation on farms along the way. They saw examples of problems met successfully.

Picnic lunches, provided by local groups, greeted the travelers daily. And at various places banquets were given for the visitors. Contacts with new people and exchanges of experiences and viewpoints were almost a constant experience.

Back home again, expressions like this were typical: "Every mile of that 1,000 was enjoyable and stimulating. . . ." "I wouldn't have missed it for the world." All agreed that a week of such close contact by teachers, employees of Federal and State agencies, farmers, and townspeople does much to promote cooperation and a common understanding.

And this, from which all walks of life gain, was, in the words printed on the cover of the caravan itinerary, "the 1950 Montana Conservation Caravan, Planned by the Montana Caravan Committee, and Carried Out by the People of Montana."

CAPABILITY MAPS GUIDE BANKERS.—Speaking in a panel discussion during Farm and Home Week at Mississippi State College, J. C. Whitehead, manager of The Fulton Bank, termed "a good credit risk" those farms which utilize soil conservation practices.

He cited a 320-acre farm in Itawamba County as an illustration, and described how using the land according to its capabilities put more money in the owner's bank account and more than doubled his credit.

"Before he put his land to its best use and gave it the treatment it needed," he said, "we could not lend him more than $150 and expect to get it back in the fall.

"Now we can lend this man $250 to $500 on open note and know that we can get the money back. He is using the soil according to its capability. This farm is no exception, if the land-capability map and conservation plans are followed."

Whitehead explained that the 320-acre farm had only 36 acres suited to cultivation, yet the owner had 96 acres in row crops before a complete conservation plan was made. Yields were low—seven bales of cotton on 21 acres, 500 bushels of corn on 50 acres.

"Now this man has 10 acres in oats with lespedeza," the banker continued. "He has 12 acres in corn followed by winter legumes and producing 50 to 100 bushels per acre, and 3 acres in cotton making three to five bales."

Grazing crops now grow on most of the land once cultivated, and support 30 cattle. "And his pastures could carry more cattle," the speaker added. The farm now has 214 acres of timber protected from fire and selectively cut.

"It is easy to see why bankers should make more use of land-capability maps," Whitehead said. "You can read one of these maps and tell just what any particular farm will produce with proper management."

LIME IN THE ARID WEST

MUCH HAS been written and said on the use of lime as a soil amendment in the humid and subhumid sections of the country. It is almost impossible to find an article on fertilizers that doesn't emphasize the importance of lime, especially in production of legumes. In the humid sections of the country, no doubt the importance of lime cannot be overemphasized.

How do these recommendations for the use of lime fit in the arid and semiarid West? Here, most of the soils have a moderate to high zone of lime accumulation in the subsoil, and many of the soils are limy throughout. The percentage of lime runs as high as 25 in the surface of some soils, and exceeds 50 in the subsoil of others. Most soil scientists agree that 1 percent, which is approximately 10 tons per acre in the plow layer, is more than enough to supply all the necessary calcium for crop growth. As long as there is any free lime in the soil, the pH will be on the alkaline side. Experimental data indicate that lime in excess of 1 to 2 percent may actually be detrimental by "tying up" such plant nutrients as phosphate, iron, manganese, and boron.

Since the articles on the need for lime are carried by magazines that have a wide circulation, many farmers in the West are asking about the need for lime in their soils. Many others are actually buying lime of one type or another and applying it to their land. Some of these types are called soil conditioners and the farmers are paying very high prices for them. In one instance that has come to my attention, the price was nearly $5 per 100 pounds.

Authors of articles on fertilizer and lime requirements of soils should realize that their recommendations are being read throughout the entire country. They should qualify their statements regarding lime needs so that the farmers in the West will not be so misled.

A line drawn from central Texas north through Oklahoma, Kansas, Nebraska, South Dakota, and North Dakota would divide roughly the soils of the United States into those needing lime east of the line, and those not needing lime west of the line.

Laboratory tests will still be necessary to determine lime requirements east of the line. Some

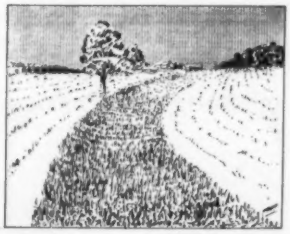
laboratory tests and field trials should be used west of the line, also, especially in areas where the average annual precipitation exceeds 20 inches or where the soils are derived from acid rocks and the precipitation exceeds 17 inches.

—BURNELL G. WEST.

MANUAL IN OTHER TONGUES.—By cable the President of Mexico recently requested 10 copies of *Manual de Conservación de Suelos*, a publication of the Soil Conservation Service. Only 9 copies could be found in the entire United States Department of Agriculture and these were air mailed to Mexico for use in a conservation congress.

Ten thousand copies were printed and distributed 2 years ago, another ten thousand last year. Twenty thousand more are now ready for distribution. Translation has been made to French and Portuguese.

NOTES FROM THE DISTRICTS



GRASS PROFITWAY.—"My 900-foot waterway is the most productive piece of land on my farm," says Howard Young, a farmer in the Harrison County (Iowa) Soil Conservation District. He harvested 520 pounds of brome grass seed from the waterway and also used it for turning and crossing.

Howard graded the waterway in 1948 but hesitated to seed it. It looked so wide and smooth he thought he could farm right across it without any trouble. But he was willing to take advice and seeded it to brome grass. "In addition to a good cash return I've got a good strip for crossing—and no ditch," he observes.

CLUB PROJECT.—On land given by Lynn L. Watson, Allegany County (N. Y.) Soil Conservation District cooperator, the Belmont Conservation Club, Inc., is establishing a model project in soil and water conservation measures influencing the production of fish and game. The project includes a 1-acre farm pond with an island nesting place for ducks. Tree and shrub plantings will demonstrate types useful in Allegany County. The area will be fenced for protection against grazing. The project is being handled through the soil conservation district with the assistance of SCS technicians. The pond, which is 14 feet deep, will be stocked with large-mouth black bass and bluegills to provide fishing for club members. The project has been financed with funds accumulated over a period of years in club activities.

CORN IN BARN LOFT.—SCS technicians in the Neuse River (N. C.) Soil Conservation District in 1947 helped E. C. Hodges work out a conservation plan that included a corn-crotalaria rotation for 10 acres of sandy Class III–B land. Recently Hodges remarked, "If you fellows hadn't come out here I wouldn't have enough corn on this sandy land to feed one hog. But last year I had so much I couldn't get it all in the crib. I put some in the barn loft and sold the rest."

FACE-LIFTING RESULTS.—Three years ago, W. E. Postlethwait's farm in Wetzel County, W. Va., was hacked out of the brush, broomsedge and povertygrass, at a face-lifting program sponsored by the Upper Ohio Soil Conservation District. That day it was dedicated as a "tree farm." Where nothing but broomsedge and povertygrass grew 3 years ago, alfalfa, clover, brome, orchardgrass, and timothy now thrive. In a field that was in brush higher than a man's head 3 years ago, there was a stand of legumes and grasses almost ankle deep this year. A pasture that was reseeded 3 years ago was almost knee deep in forage for his herd. It had been clipped once during the summer. The farmstead had been done over from top to bottom, the yard had been landscaped, and a pond had been built. A new barn is planned for early construction. Bill Postlethwait and his family have a lot more to do but, working as a team, they will reach their goal and in a few years have one of the best-looking farms in West Virginia.

ADVANTAGES OF WINTER RYE.—In September 1949, after the corn had been harvested and the land had been harrowed, John Maloney, of the White River (Vt.) Soil Conservation District, planted 22 acres of winter rye for spring grazing. During the winter he applied a good coat of manure. On May 1, 1950, Maloney turned his 40-cow dairy herd into the rye where it had 25 days of grazing. No grain feeding was necessary. During the 25 days the herd produced 22,000 pounds of milk, an average of 22 pounds per cow per day, at a time when many farmers in that area were feeding hay because of the late start their pasture had. When taken off the rye, Maloney's herd was turned into good native pasture, and the rye field was plowed and planted to corn. A large part of the 22,000 pounds of milk was produced from the cover crop that also protected the 22 acres from erosion during the winter.

PONDS ARE POPULAR.—Six years ago, when the Elk (W. Va.) Soil Conservation District was being organized, L. A. Richardson, secretary of the board of supervisors, told technicians, "You can pass up farm ponds because we don't need any in Nicholas County!"

If you drop in at Richardson's farm now you'll find that he himself has three farm ponds, two located close to his home and a smaller one. Two are stocked with fish and on one there is a boat. What's more, Richardson has named his place "Tu-Pond Farm."

By the end of 1950 there will be nearly 3,000 ponds, built under the district program, in West Virginia; 250 of them will be in Elk Soil Conservation District.

George Sharp, West Virginia soil conservationist, a member of the staff that started district work in Nicholas County, well remembers Richardson's early view about farm ponds. "To hear him talk now," he says, "I'm sure 'L. A.' would put a pond on every farm in the Elk district."

Firemen of Milford Center, N. Y., demonstrate fire-protection worth of pond at Gertrude Low farm. She is a cooperator in the Otsego County Soil Conservation District.

FIRE DEPARTMENT SUGGESTIONS.—When a farm pond is being built for fire protection, there is extra insurance in this establishment when the farmer calls in representatives of his neighboring fire departments and plans with them the building of a hard-surfaced approach from the highway to a level point where the pumpers can do their most effective work.

Pumpers should be able to get within 25 feet of the deep end of the pond. If they are of the rotary or centrifugal type, they should get even closer. Most soil conservation district cooperators also find it good business to provide protection for the end of the hose that is dropped into the pond. When the right kind of cooperation is developed, fire companies make test runs to a farm to acquaint their members with the pond location and approach.

At Milford Center, N. Y., in the Otsego County Soil Conservation District, the Milford fire department, and the Mountaineers 4–H Club recently cooperated with the SCS technicians in a demonstration of the fire-protective value of farm ponds. It was held at the Gertrude Low farm, where the firemen had two lines of hose playing on the "flames," less than 2 minutes after their arrival.

KIWANIS CLUBS ACTIVE.—New England Kiwanians are giving soil conservation and agriculture an extra boost. Early in September local clubs in the district invited soil conservation district supervisors and Soil Conservation Service technicians to meetings with members, and planned field tours. The big idea, according to Daniel J. Lewis, New England chairman of the Kiwanian agriculture and conservation committee, is to enlarge membership interest in agricultural and soil conservation progress. It aims to enlist the support of other organizations by showing that soil conservation helps city people as much as farmers and that this work must go on for the good of everyone. Kiwanians are offering certificates of accomplishment to farmers, together with recognition in newspapers and magazines. Participation of young people in the soil conservation program is being encouraged by essay and 4–H contests.

VIRGINIA INNOVATION.—As another step in acquainting the public with the soil conservation district movement, district supervisors in Virginia are displaying on their automobiles a metal sign with green letters on a white background reading:

SUPERVISOR
SOIL CONSERVATION DIST.

The Executive Committee of the State Association of Soil Conservation Districts endorsed the use of the plate, which is attached with the regular license plate.

The State Soil Conservation Committee agreed to defray the cost of enough plates to provide one for each supervisor in the 22 districts in the State. The State penitentiary made the plates at a cost of 28 cents each, plus 2 cents for assembly bolts, or a total cost of 30 cents each, E. W. Mundie, extension soil conservationist, reports.

Some of the supervisors have requested an additional plate for use on pick-up truck or other vehicle.

SOIL LOSS DISTURBS CITY.—Macomb, Ill., a city of 9,000 population is in the McDonough County Soil Conservation District.

A survey of Spring Lake, Macomb's only water reservoir, showed that silt from farms had reduced its capacity so much that the lake might be inadequate by 1953 in the event of serious drought. The survey committee recommended that the city of Macomb undertake immediately a soil and water conservation program on the Spring Lake watershed in cooperation with existing conservation agencies.

It was estimated that a complete protective program on the watershed would reduce soil losses by 80 percent. Sheet erosion accounted for 97 percent of the sediment in the lake.

WHAT, NO POND?—The West Ottawa (Mich.) Soil Conservation District, which recently repaid the county board $5,000 earned from sale of nursery stock, has lost its main nursery building and equipment in a fire. Rebuilding on a bigger and better scale has already started. In addition to nursery space, the new cement-block building will house district office and meeting room.

CONSERVATION AT LIVESTOCK SALES.—J. T. Herndon of the Herndon Stock Yard at Ehrhardt, S. C., has good reason to turn over the "mike" to Soil Conservation Service men at stock sales. According to Herndon, *a good percentage of the best cattle and hogs that go through these sales have been fed on pastures developed according to recommendations of the Service.*

The 150 to 200 farmers attending these sales engage in lively discussions as SCS technicians, M. A. Phifer, Jr., and J. C. Kay, Jr., handle the "mike." All phases of soil and water conservation are covered. And applications for help in conservation work result.

CATTLE FOLLOWED HIS TRUCK.—Farm-to-farm peddling, a common sight half a century ago, has returned, modernized and mechanized, to the Sumter County Soil Conservation District of Florida.

E. Loy Strickland, the Soil Conservation Service technician assigned to the district, is the peddler. His wares: Grasses to hold and improve land and to feed the increasing herds of cattle.

"A few years ago it occurred to me that if a farmer could see several grasses side by side he would be better able to choose those that suited his fancy and his needs," Strickland says. "In developing long-range soil and water conservation farm plans here in the district, we are now able to show farmers several grasses and legumes that we are recommending they use in a conservation program."

Three years ago Strickland prepared, at the request of the district supervisors, a grass exhibit for the Sumter County Cattle Breeders show. He planted grass in several boxes about 18 inches square.

After the cattle show, Strickland placed the grass boxes in back of his pick-up truck.

"When I first used the exhibit in the truck I spent one whole afternoon just answering questions of groups who crowded around," he says. "In making an acre-by-acre conservation plan, a farmer can study each of the grasses, compare growths, and make his choice of the ones that will fit his land."

Once Strickland almost lost his exhibit. He parked his truck in an unimproved pasture while he went with a farmer to another field. When he returned hungry cattle were munching the grass.

"The grass was so good they followed my truck until we came to the cattle gap," Strickland recalls. "This fact impressed the farmer and he is now a cooperator with the district and establishing additional pasture each year."

Strickland has another grass exhibit which he says also is proving effective. Just outside his office in the courthouse at Bushnell are more than 20 plots of grasses and legumes that can be seen by farmers.

"What you see you believe," he explains. "Besides, this method saves me lots of talking."

SUCH POPULARITY MUST BE DESERVED!—Ten thousand acres of Kentucky 31 fescue (Suiter's grass) by the fall of '52 is the goal of the Ten Thousand Acre Kentucky 31 Fescue Club of the Clay County Soil Conservation District of Mississippi. Farmers, businessmen, civic clubs, and, in fact, just about everybody is boosting fescue. Why so much interest in fescue? It is making more and better meat and milk, fitting the land-use pattern, and adding dollars to pocketbooks.

In the fall of 1948, Joe B. Strickland, a hustling young farmer in the Pheba community, planted 10 acres to Kentucky 31 fescue and white clover on some poorly drained flatwoods land. It did better than he expected. The following spring his neighbors started asking him what he had on that old field where sedge grass had been growing for the last 15 years. The news spread around and soon groups of 4 or 5 to 60 were going to see Strickland's pasture. People came from all over Clay County district and from neighboring districts. In June 1949 when R. Y. Bailey, regional agronomist of the Soil Conservation Service, visited the farm with a group of farmers, district commissioners, and agricultural workers, Strickland told them this story:

"I half-heartedly planted 10 acres of Kentucky 31 fescue grass and white clover on some of my worst land, and now it is the best pasture on my place. I put nine cows on this grass and clover last December 10. On March 20 I took them off so I could save seed, but in 3 days milk production had dropped 5 gallons a day, so I put them back. I took the cows off again in April and the same thing happened again, so I decided it would be cheaper to let the cows eat the grass and then sell the milk and buy seed. I am sold on this grass for I have seen what it does."

As a result, about 500 acres of Kentucky 31 fescue were planted in Clay County district last fall. More farmers had good fescue pastures to show and talk about this year. More field meetings were held. Representatives of Swift and Company's milk plant at West Point held a series of night meetings and showed films on "Greener Pastures." Soil Conservation Service workers attended these meetings and told the farmers how to go about making good pastures a part of a complete soil and water conservation program. The West Point Kiwanis Club—80 strong—held a field meeting. On the farm of District Commissioner J. H. Tumlinson, Jr., they saw fescue being used in a good land-use program.

Businessmen seeing this grass and hearing farmers tell what it is doing decided more and more of it was needed in Clay County district. They joined forces with farmers and agricultural workers to speed up the job.

The Clay County Soil Conservation District Ten Thousand Acre Kentucky 31 Fescue Club was formed. Farmers become members by planting and grazing fescue according to recommendations. All other individuals, firms, or organizations become members by active support and participation in the program. Three thousand acres in '50 and ten thousand acres by '52 is the goal.

—T. D. Alldredge.

SUGGESTION FOR CHRISTMAS.—A $1 subscription to Soil Conservation Magazine is a gift repeated 12 times a year. Banks, implement companies, other business concerns find a hundred presents for farmer friends easily purchased for $100 from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

BEANS MARCH ACROSS SLOPE.—Approximately 2,500 acres of beans were planted in Ashe County, N. C., this year, but Carl Hartsog, of Creston, was probably the only farmer to plant them in strips. Most of Hartsog's farm is steeply rolling, so it is necessary for him to plant some of his crops on steep land. The field shown in the picture above is on about a 30-percent slope. Hartsog decided to plant his beans in strips after observing the small amount of soil that was lost during the 3 years he has been planting his corn in strips. Although bean production did not show any substantial increase this year, Hartsog states that he did not lose any soil, which would not have been the case if the whole field had been planted to beans.

J. T. McLaurine, SCS technician, helped Hartsog work out with the New River Soil Conservation District a system of strip cropping as part of a complete soil and water conservation program.

"Farmers in Ashe County produced around 250,000 bushels of beans in 1949," McLaurine says. "Very few of them have thought in terms of planting beans in strips, but Hartsog tells them that, regardless of the crop, it should be in strips if it's planted on rolling land."

PRISON PROPERTY SAVED.—Before it was discovered and put under control, a fire at the State Prison Farm at Thomaston, Maine, destroyed a $75,000 dairy barn and contents. Firemen were able, however, to save other farm buildings because of a farm pond. For four straight hours at the peak of the fire they had two lines of hose pulling out of the 600,000-gallon reservoir built by SCS technicians cooperating with the Knox-Lincoln Soil Conservation District. A third line was running from a neighboring pond. Next day, from the farm pond, firemen played a stream all day on the smoking ruins.

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